

ABSTRACT

There is provided an apparatus for screening pharmacological agents for agents which induce regression of cancer. The apparatus includes an evanescent sensing device, at least one sensor having affixed to its surface molecules of a first type, which have affinity for molecules of a biological receptor, the surface molecule and receptor molecule combination having the effect that, *in vivo*, the binding affects the rate of transcription of gene products, and a molecular tag wherein the molecular tag is bound to the sensor wherein the binding between molecules of the first type and molecules the biological receptor cause the tag to produce a alteration in signal recorded by the evanescent sensing device, the tag also being bound to molecules of a second type, the molecules of the second type having affinity for the receptor molecules. Also provided is a method for screening pharmacological agents to determine agents which induce regression of cancer by contacting extract from a tumor tissue biopsy with a molecular tag, thereby causing the tag to bind to receptor molecules present in the tumor tissue biopsy, flowing the tag sample extract through a sensor, as set forth above, and recording the time course of signal observed by the evanescent sensing device, introducing pharmacological agents to be accessed to the tag sample extract, flowing the tag sample extract through the sensor again and recoding the time course of signal observed by the evanescent sensing device, and using the data to evaluate the impact of the pharmacological agents on the rate of transcription of gene products.